



## technology opportunity

# Simplified Night Sky Display System

A Portable, Simply Constructed Planetarium Imaging System



A simple night sky display system that is portable, lightweight, and includes at most four components in its simplest configuration.

The system is a portable structure, simply constructed with inexpensive and generally lightweight materials for displaying a selected portion of the night sky and selected planets, satellites, comets and other astronomically observable objects that are visually perceptible within that portion of the night sky. The structure includes a computer having stored signals representing the observable objects, an image projector that converts and projects the stored signals as visually perceptible images, a first curvilinear light-reflecting surface to receive and reflect the visually perceptible images, and a second curvilinear surface to receive and display the visually perceptible images reflected from the first surface. The images may be motionless or may move with passage of time. In one embodiment, the structure includes an inflatable screen surface that receives gas in an enclosed volume, supports itself without further mechanical support, and optionally self-regulates pressure of the received gas within the enclosed volume.

## Technology in Detail

This system may be used to simulate selected portions of the night sky, preserving the appearance and kinesthetic sense of the celestial sphere surrounding the Earth or any other point in space. These points will then show motions of planets, stars, galaxies, nebulae, and comets that are visible from that position. The images may be motionless, or move with the passage of time. The array of images presented, and vantage points in space, are limited only by the computer software that is available, or can be developed.

An optional approach is to have the screen (second surface) self-inflate by means of gas within the enclosed volume, and then self-regulate that gas in order to support itself without any other mechanical support.

## Patents

This technology has been patented (U.S. Patent 7,438,422).

## Licensing and Partnering Opportunities

This technology is part of NASA's Innovative Partnerships Program, which seeks to transfer technology into and out of NASA to benefit the space program and U.S. industry. NASA invites companies to inquire about licensing possibilities for this technology for commercial applications.

### For More Information

**If you would like more information about this technology, please contact:**

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